MODIS TECHNICAL TEAM MEETING

May 25, 1995

The MODIS Technical Team Meeting was chaired by Vince Salomonson. Present were David Herring, John Bauernschub, Steve Ungar, Barbara Putney, Wayne Esaias, John Barker, Dorothy Hall, Dick Weber, Locke Stuart, Bill Barnes, Bruce Guenther, Ed Masuoka, and Yoram Kaufman.

1.0 SCHEDULE OF EVENTS

June 8	Presentation on a Possible Future Hyperspectral MODIS to the MODIS Technical Team
June 13 - 14	MODIS EM Test Review at SBRC
Oct. 17	MODIS Calibration Working Group at GSFC [tentative]
Oct. 18 -20	MODIS Science Team Meeting at GSFC [tentative]

2.0 MINUTES OF THE MEETING

Note: During this meeting there was some discussion about the possibility of building a hyperspectral MODIS in the future, in accordance with the new "better, faster, cheaper" philosophy at NASA. Subsequent to this meeting, Salomonson invited Paul Westmeyer and Steve Neeck to present an overview and suggested technical specifications for a hyperspectral MODIS to possibly fly in the EOS AM-2 timeframe. Westmeyer and Neeck will deliver their presentation at the June 8 MODIS Technical Team Meeting.

2.1 MODIS Project Reports

Weber reported that SBRC has disassembled the MODIS Engineering Model (EM) and will conduct a modal survey in mid-June. There will also be a spacecraft interface test conducted with Lockheed / Martin Marrietta in mid-June. Weber reminded the team that the EM Test Review is scheduled for June 13 - 14.

Regarding testing the solar diffuser and SDSM outside, Weber stated that dialogue among MODIS Project, MCST, and Phil Slater is still ongoing. Slater would like to measure the response of the SDSM to the solar diffuser looking at the sun; MCST also wants to measure MODIS sensitivity for viewing both the sun and Earth using a common light source. Weber added that there are complications that come with conducting the procedure outside, such as that the data must be recorded by hand, and for only one SDSM detector at a time. Also, following a moving target (the sun moving across the sky) to the required accuracy (0.1 to 0.2 degrees) would be difficult. The flight detectors for the SDSM will not be to SBRC before late summer.

2.2 MCST Reports

Guenther reported that MCST is currently analyzing SBRC's EM test data in preparation for the upcoming EM review. Guenther said MCST will go into the review with a couple of considerations: 1) what hardware will be changed for the Protoflight Model or Flight Model? 2) can the tests which were conducted on the EM be improved when they are performed on the flight hardware?

2.2.1 Near-field Scattering

Guenther said MCST is almost finished its processing of the near-field scatter tests done at SBRC. He expects to received radiometry data for all 36 bands. He pointed out that there are about 2 Gbytes of data for the near-field scatter tests and 7 Gbytes of SBRC data for the EM radiometry tests.

Guenther told the team that the APART and ASAP light scattering analysis conducted by Breault is nearing completion. MCST received a draft report of their analysis and provided comments and requests for modifications. Guenther expects to receive the final draft from Breault next week. He added that the only surprise in the report is that there is one specific element in the SWIR bands that has high near-field scatter contribution, but we have not assessed the overall magnitude of this SWIR near-field scatter result. MCST will continue to review the data and will report further upon completion of their analysis.

2.3 SDST Reports

Ungar reported that his work continues with PRA (Photon Research Associates) on their simulated data view. Ungar said he has some concerns regarding the viewer and he is working to customize it to fit MODIS' needs.

Ungar showed a sample classification map of simulated data with false color assigned to illustrate the mixture of surface types.

Putney reported that the Toolkit for reading Level 2 data will be complete this week. She is looking forward to the July deliver of beta software.

2.3.1 MODIS Storage and Processing Costs

Masuoka reported that ESDIS is currently producing a model of the budget that will be required to support the processing and archiving of MODIS products through the year 2000. Masuoka said he will forward ESDIS' report to the Team Leader for review.

2.4 Atmosphere Group Reports

Kaufman asked why the MODIS Level 1 product is in radiance units rather than reflectance. He pointed out that for all products, except fluorescence, Team Members will want to convert from radiance to reflectance, yet because there is a difference in the accuracy of calibration for the two units, the uncertainty will vary. Kaufman said he prefers to calibration the Level 1 products in reflectance units, and requests that the Team do so.

Salomonson requested MCST to consider Kaufman's concerns and prepare an explanation or brief presentation for the Technical Team as to which unit is best suited for MODIS' purposes--radiance or reflectance.

Kaufman announced that the SCAR-B Memorandum of Understanding has been signed by the Brazilian president.

2.5 Ocean Group Reports

Esaias told the Team that Mark Abbott's graduate student Ricardo Letelier is completing some excellent work on new algorithms for deriving line height and fluorescence. Letelier found that moving the MODIS channel 14 to 680 nm will better enable him to derive these products. Esaias said Letelier is developing a formal request to the MODIS Project to incorporate this change on the MODIS AM flight model. Weber stated that he is not now prepared to answer this request, but that his office will consider it. Consideration must be given to cost and the time required for SBRC to make the change.

2.6 MAST Updates

Herring announced that the first draft of the minutes from the last MODIS Science Team Meeting will be complete Friday, May 26.

Stuart reported that MAST is considering designating certain of its personnel to serve as interfaces to specific groups within the MODIS Team. Consideration will be given to each MAST member's area(s) of expertise and interest.

3.0 ACTION ITEMS

1. *MCST:* Consider Yoram Kaufman's concerns and prepare an explanation or brief presentation for the Technical Team as to which unit is best suited for MODIS' Level 1 data--radiance or reflectance.

3.1 Action Items Carried Forward

2. *MAST:* Begin preparing the Agenda for the next MODIS Science Team Meeting--begin planning topics for 2-hour to half a day roundtable discussions and team members to moderate them. Also, allow time for a 1- to 1.5-hour Discipline Group Splinter Session on the first day.
3. *Dave Diner & Ed Masuoka:* MODIS and MISR need to settle on a protocol(s) to deal with Level 1 and Level 2 data sets to be passed between the two teams to produce joint products. Report at the next SWAMP Meeting.
4. *Guenther:* Report the modeled results of the 1,000K source for SBRC's integration and alignment collimator to the Technical Team. [These data are forthcoming.]
5. *Fleig and Ungar*: Interact with the group leaders to develop a MODIS data simulation plan for review at the next Science Team Meeting. [Work on this item is still in progress. Simulated data are now available via FTP, and a white paper is forthcoming from Fleig.]